

Claims

1. An electromagnetic interference (EMI) measuring method comprising:
 - acquiring a set of time-domain waveforms from a group of equably distributed test points on an Equipment Under Test (EUT) and the test points are well numbered; and
 - processing, converting, comparing and analysing the waveforms, the test point bearing the maximum value under specified EMI frequency is traced out and the position where the test point located should be the location of the EMI source.
2. The method according to claim 1, further comprising:
 - obtaining a set of time domain signal waveforms from a group of equably distributed test points that are well numbered on the EUT;
 - processing the above set of time domain signal waveforms by transforming them into frequency domain or by transforming them into time/frequency domain;
 - comparing the EMI frequency components relating to each test point to trace out the test point bearing the maximum EMI; or tracing out the EMI frequency locations in the time domain waveform according to the time/frequency domain analysis; and
 - tracing out the position where the test point bearing the maximum EMI value in the EUT layout will be the potential EMI source location; alternatively, the electronic components in the EUT that generate the spots in the waveform should be the components generating the EMI by checking the different spots in the waveform in the time domain that correspond to the moments when the EMI occurs.
3. The method of claim 1 or claim 2, wherein the time domain waveform could be current waveform, or voltage waveform, electromagnetic field intensity waveform.
4. The method of claim 1 or claim 2, wherein the time-domain-signal-waveform is acquired by the measurement device, or electronic design software system.
5. The method of claim 1 or claim 2, wherein the time-domain-signals are transformed into the frequency-domain-signals by employing Fourier Transform or Wavelet Transform.
6. The method of claim 1 or claim 2, wherein the time-domain-signals are

transformed into the time-frequency domain by employing Short Time Fourier Transform or Wavelet Transform.

7. An EMI measuring system comprising:

a signal acquisition portion, wherein the signal acquisition portion comprising the probe (11) and the waveform recording circuit (12); and

a signal analysis portion, wherein the signal analysis portion comprising the data input interface (21), the memory (22) and the time/frequency converter together with frequency component comparator (23).

8. The system of Claim 7, wherein the data input interference (21) is the I/O interface and the channel of the computer, or removable memory or disk, or computer memory or hard disk.

9. The system of Claim 7, wherein the time/frequency converter and frequency component comparator (23) are installed in the computer operation system platform and comprises a data input module (2301), a data acquirement module (2302), a signal transform module (2303), a frequency component comparison and analysis module (2304) and a display module (2305).

10. The system of Claim 7, wherein the probe (11) is the measurement device that can pick up the current, the voltage, or the electromagnetic field intensity waveform.

11. The system of Claim 7, wherein the waveform record circuit is the oscilloscope waveform record circuit, or the A/D card plugged directly in the computer socket, or the A/D unit connected to computer via serial or parallel port of the data input interface (21).